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# **Motortruck Operations Of Farmer Cooperatives**

U.S. Department of Agriculture



Farmer Cooperative Service

FARMER COOPERATIVE SERVICE  
U. S. DEPARTMENT OF AGRICULTURE  
WASHINGTON 25, D. C.

Joseph G. Knapp, Administrator

The Farmer Cooperative Service conducts research studies and service activities of assistance to farmers in connection with cooperatives engaged in marketing farm products, purchasing farm supplies, and supplying business services. The work of the Service relates to problems of management, organization, policies, merchandising, product quality, costs, efficiency, financing, and membership.

The Service publishes the results of such studies; confers and advises with officials of farmer cooperatives; and works with educational agencies, cooperatives, and others in the dissemination of information relating to cooperative principles and practices.

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This study was conducted under authority of the Agricultural Marketing Act of 1946 (RMA, Title II).

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characteristics of operations are given by size and type of cooperative according to geographic location.

This study of motortruck operations of farmer cooperatives was conducted by mail questionnaire sent to all cooperatives on the mailing list of the Farmer Cooperative Service, U. S. Department of Agriculture. These included 9,294 local and regional cooperatives but actual mailings totaled 8,784, since several regional cooperatives, in replying to questionnaires, regularly include data for local member associations.

Over 70 percent, or 6,171 associations, returned usable questionnaires. Of this number, 56 percent reported owned or leased motortrucks. The estimated number of cooperatives in the United States,

number and percentage reporting trucks, by States and regions, January 1, 1961, are given in appendix table 1.

Returns of the questionnaires by regions ranged from 65 percent for the Southern region to 78 percent for the Pacific region.

Returns of questionnaires by type of association show a similarly narrow range. Sixty-nine percent of the marketing cooperatives responded to the questionnaire compared to 72 percent for purchasing and 64 percent for service cooperatives (table 1.).

Only 28 percent of the service cooperatives operated trucks, however, compared to 78 percent for purchasing and 46 percent for marketing associations.

Table 1. - Number of questionnaires mailed, respondents and percent response, number and percent of cooperatives operating motortrucks, by type of cooperative, January 1, 1961

Type of cooperative	Questionnaires			Cooperatives operating motortrucks	
	Mailed	Respondents <sup>1</sup>	Response		
	Number		Percent	Number	Percent
Marketing					
Cotton	527	364	69	172	47
Dairy	1,541	1,112	72	581	52
Fruit and vegetable	702	482	69	168	35
Grain	2,014	1,451	72	811	56
Livestock and wool	651	362	56	61	17
Poultry	125	76	61	44	58
Miscellaneous <sup>2</sup>	267	203	76	44	22
Marketing (total)	5,827	4,050	69	1,881	46
Purchasing	2,737	1,980	72	1,549	78
Service <sup>3</sup>	220	141	64	39	28
All types	8,784	6,171	70	3,469	56

<sup>1</sup>Represents usable returned questionnaires included in main tabulation.

<sup>2</sup>Includes sugar products, forest products, rice, tobacco, fur pelts, hay, hops, nursery stock, tung oil, coffee, nuts, and other farm products not separately classified.

<sup>3</sup>Includes cooperatives furnishing special marketing or related services, such as cold storage lockers, trucking, warehousing, and seed cleaning.

Of the marketing associations, livestock and wool were low in percent of respondents operating trucks, with 17 percent,

while more than half of the poultry, grain, and dairy cooperatives operated trucks.

## Trucks Owned or Leased<sup>1</sup>

The total number of trucks farmer cooperatives owned or leased was estimated at 33,000 as of January 1, 1961.<sup>2</sup> This figure represents an average of 3.5 trucks for each cooperative in the United States.

According to a previous study, the number of trucks owned or leased by farmer cooperatives was estimated at 28,000 in 1951.<sup>3</sup> Thus, the estimated number of trucks owned or leased by cooperatives increased 18 percent from 1951 to 1960. In comparison, total truck registrations for the United States increased from 8.6 million in 1951 to 11.4 million in 1960, or 32 percent.

The percentage distribution of motor-trucks, owned or leased, by type of cooperative, is illustrated in figure 1. Marketing associations accounted for 57 percent of all trucks, with practically all the balance being operated by purchasing associations. Dairy cooperatives

led the marketing associations, with 35 percent of all trucks, followed by grain with 12 percent and fruit and vegetable cooperatives with 5 percent.<sup>4</sup>

Figure 2 is a map showing the regional distribution of trucks owned or leased by farmer cooperatives. These percentages are based on actual returns from responding cooperatives.

The geographic breakdown used is the same as that designated by the Interstate Commerce Commission for the continental United States. Non-contiguous areas include the States of Alaska and Hawaii and the Commonwealth of Puerto Rico.

Over half the trucks operated by farmer cooperatives are located in the Central (20 percent), Northwestern (20 percent), and Midwestern (16 percent) regions of the country. The Pacific region with 14 percent of the trucks, and the Southern region with 10 percent, follow.

## Types and Sizes of Motortrucks

We obtained information on the following types of trucks and equipment, owned or leased, by cooperatives as of January 1,

1961: (1) Straight trucks with van bodies, tank bodies, and other type bodies; (2) truck tractors; and (3) truck trailers and

<sup>1</sup>The term "trucks" as used in this report, refers only to power units.

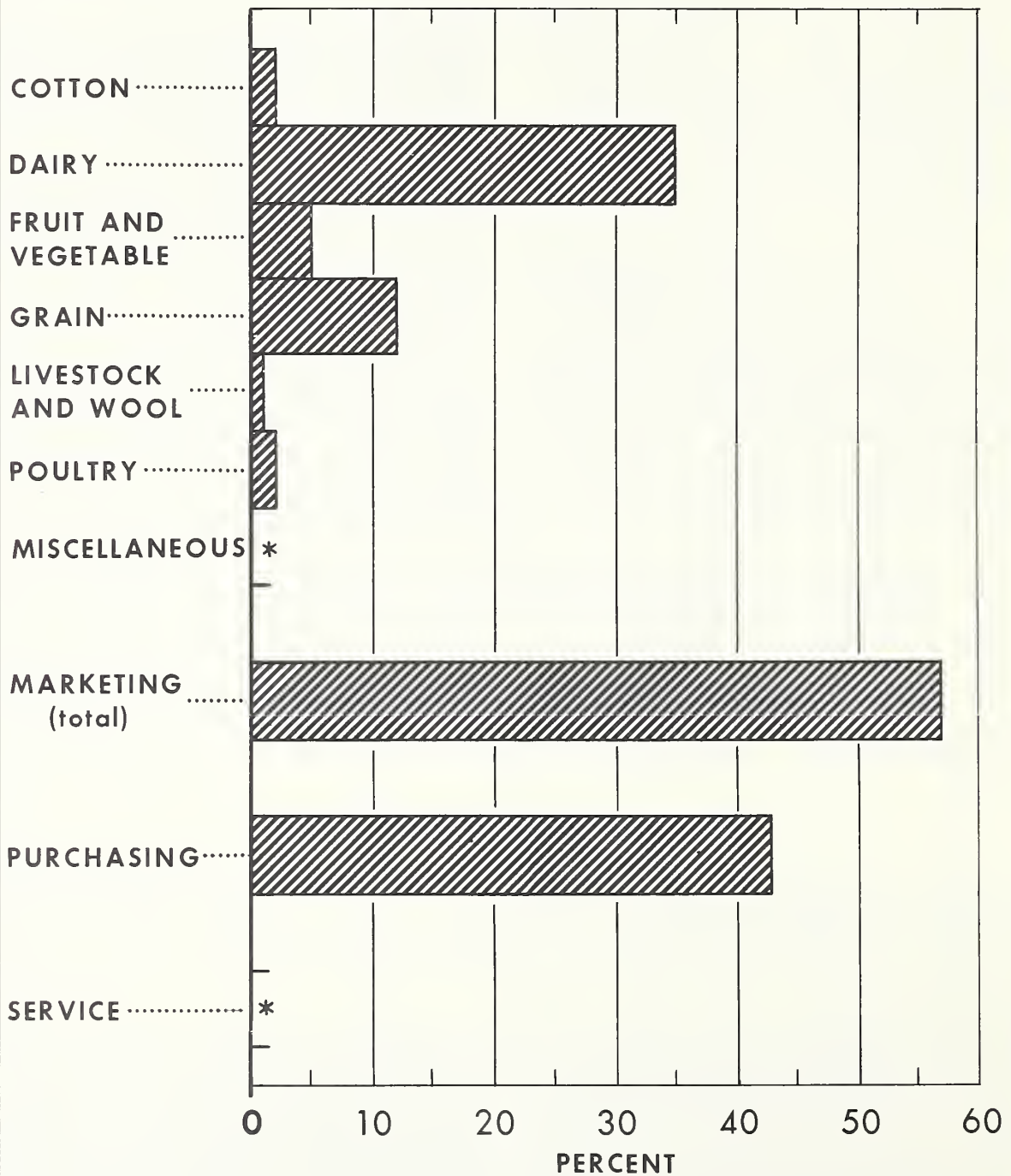
<sup>2</sup>The number of trucks reported by cooperatives replying was classified by type and size of cooperative. A projection, based on these factors, was then made to apply to the 9,294 cooperatives on record in Farmer Cooperative Service, U. S. Dept. of Agr., to obtain the estimated 33,000 truck figure.

<sup>3</sup>Byrne, Robert J. and Conyers, Leonard N. Motor-truck Inventory of Farmer Cooperatives. March 31, 1951. Miscellaneous Report 168. Farm Credit Administration, U. S. Dept. of Agr. 1952.

<sup>4</sup>The extensive use of delivery trucks in the retail distribution of fluid milk is partly responsible for the large number of trucks operated by dairy cooperatives. However, dairy cooperatives also use tank transports in interplant hauling and wholesale distribution operations. For more detailed information on truck operations of dairy cooperatives, see Gessner, Anne L. Integrated Dairy Operations Through Farmer Cooperatives, General Report 69, Farmer Cooperative Service, U. S. Dept. of Agr., 1959, pp. 37-39.

FIGURE 1

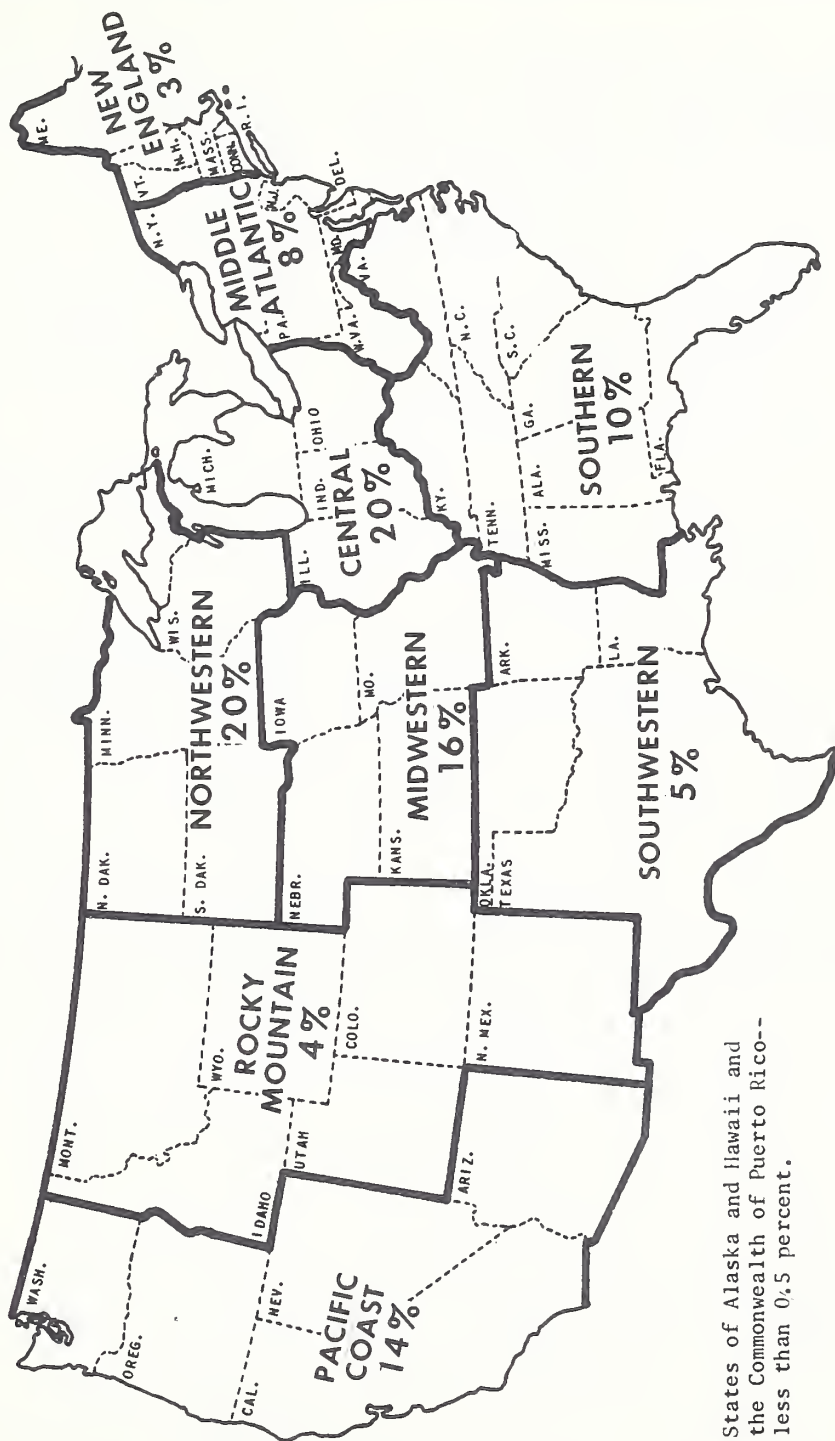
## PERCENTAGE DISTRIBUTION OF MOTORTRUCKS, BY TYPE OF COOPERATIVE, JANUARY 1, 1961



\* LESS THAN 0.5 PERCENT.

FIGURE 2

# **PERCENTAGE DISTRIBUTION OF MOTORTRUCKS OWNED OR LEASED BY FARMER COOPERATIVES IN THE UNITED STATES, BY REGIONS, JANUARY 1, 1961\***



\*States of Alaska and Hawaii and the Commonwealth of Puerto Rico--less than 0.5 percent.

semitrailers with van, tank, and other type bodies.

Data on size of equipment were by manufacturers' rated capacity, broken down into three size categories for both straight trucks and truck tractors. The size categories were 1 1/2 tons and under, over 1 1/2 but less than 2 1/2 tons, and 2 1/2 tons and over. Trailers and semitrailers were not broken down by capacity. In addition, the cooperatives were requested to indicate whether the equipment was owned or leased, for all category breakdowns.

### Types of Motortrucks, Owned or Leased

The percentage distribution of types of motortrucks, owned or leased, by type

of cooperative is shown in table 2. Nearly one-half of the trucks operated by marketing associations as a group were straight trucks with van bodies. On the other hand, purchasing cooperatives operated a higher percentage of straight trucks with tank bodies and bodies other than van or tank. Purchasing cooperatives operated a large number of tank trucks, mainly in distributing petroleum to farms.<sup>5</sup> Trucks operated by service-type cooperatives were fairly evenly dispersed in all the type categories.

A breakdown of the marketing cooperatives shows a considerable variation in the truck fleet makeup by type of

<sup>5</sup>Gessner, Anne L. and Mather, J. Warren. Integrated Petroleum Operations Through Farmer Cooperatives, General Report 58, Farmer Cooperative Service, U. S. Dept. of Agr. 1959. A more detailed analysis of the use of tank trucks in petroleum operations of farmer cooperatives is given in this report.

Table 2. - *Percentage distribution of types of motortrucks, by type of cooperative, January 1, 1961<sup>1</sup>*

Type of cooperative	Total trucks reported	Percentage distribution of -				Percentage total trucks
		Straight trucks			Truck tractors	
		Van	Tank	Other		
	<i>Number</i>	<i>Percent</i>				
Marketing						
Cotton	466	12	5	40	43	100
Dairy	9,397	61	10	19	10	100
Fruit and vegetable	1,164	17	3	68	12	100
Grain	3,205	29	16	49	6	100
Livestock and wool	252	57	5	23	15	100
Poultry	535	44	8	29	19	100
Miscellaneous	129	13	5	62	20	100
Marketing (total)	15,148	49	10	30	11	100
Purchasing	10,305	26	29	37	8	100
Service	75	29	22	20	29	100
All types	25,528	39	18	33	10	100

<sup>1</sup>As reported by 6,171 cooperatives.

Table 3. - Number and percentage distribution of trailers and semitrailers, by type of cooperative and type of equipment, January 1, 1961<sup>1</sup>

Type of cooperative	Number of trailers and semi-trailers	Percentage distribution of trailers and semitrailers							
		By type of cooperative				By type of equipment			
		Van	Tank	Other	Total	Van	Tank	Other	Total
	<i>Number</i>	<i>Percent</i>							
Marketing									
Cotton	331	1	(2)	24	8	5	(2)	95	100
Dairy	1,320	42	50	5	33	39	55	6	100
Fruit and vegetable	403	5	1	25	10	14	3	83	100
Grain	325	3	7	14	8	12	29	59	100
Livestock and wool	33	1	(2)	2	1	27	12	61	100
Poultry	178	7	2	5	5	47	18	35	100
Miscellaneous	90	(2)	2	5	2	7	24	69	100
Marketing (total)	2,680	59	62	80	67	27	34	39	100
Purchasing	1,289	40	37	20	32	38	41	21	100
Service	25	1	1	0	1	32	68	0	100
All types	3,994	100	100	100	100	31	36	33	100

<sup>1</sup>Based on data reported by 6,171 cooperatives. Includes both owned and leased equipment.

<sup>2</sup>Less than 0.5 percent.

association activity. Dairy, livestock and wool, and poultry cooperatives were high in straight trucks with van bodies, while fruit and vegetable, grain, and other cooperatives listed under "miscellaneous" operated higher percentages of straight trucks with bodies other than tank or van.

The relatively high percentage of straight tank trucks reported by grain cooperatives was attributed to the petroleum distributing activities of some elevators. Truck tractors made up 43 percent of the trucks operated by cotton cooperatives. Many of these were believed to be used in hauling cotton from fields to gins, as nearly 80 percent were reportedly less than 2 1/2-ton capacity units.

For all cooperatives, 39 percent of the trucks were straight with van bodies, 18 percent were straight trucks with tank bodies, and 33 percent were straight trucks with other type bodies. Only 10 percent of the total power units operated by farmer cooperatives were truck tractors.

It is significant that 90 percent of the trucks operated by farmer cooperatives were straight trucks. This demonstrates the relatively short-haul operations of most cooperatives.

Of significance also is the high proportion, 51 percent, of straight trucks with bodies other than van type. This indicates the importance of "specialized"

hauling equipment in the makeup of trucks operated by cooperatives.

## Trailers and Semitrailers

Of the trailers and semitrailers owned or leased by farmer cooperatives reporting, about two-thirds were operated by marketing associations and practically all the balance by purchasing associations. Dairy cooperatives accounted for about half the marketing total, with predominantly van and tank-type units (table 3).

Thirty-nine percent of the trailers and semitrailers operated by marketing cooperatives were other than van or tank, 34 percent were tank, and 27 percent were van. Tank-type trailers and semitrailers made up 41 percent of the units owned or leased by purchasing cooperatives. Service-type cooperatives, however, were high in tank units, with 68 percent. Distribution of trailers and semitrailers by type of unit was fairly even for all types of cooperatives.

As shown in table 4, semitrailers were more popular than full trailers. None

Table 4. - *Percentage distribution of trailers and semitrailers, by general type of cooperative, January 1, 1961*

Type of cooperative	Percentage distribution by kind of trailer		
	Trailers	Semitrailers	Total
	Percent		
Marketing	28	72	100
Purchasing	24	76	100
Service	0	100	100
All types	27	73	100

of the service cooperatives reported operating any full trailers.

## Size of Trucks

Table 5 shows the percentage distribution of cooperative trucks owned or leased, by manufacturers' rated capacity and type of truck. Appendix tables 2 and 3 give more detailed information by types and sizes of trucks, by type of cooperative.

Forty-one percent of all straight trucks reported were 1 1/2 tons or less, 43

Table 5. - *Percentage distribution of motortrucks operated by farmer cooperatives, by type of truck and manufacturers' rated capacity, January 1, 1961<sup>1</sup>*

Type of truck	Percentage distribution of trucks by manufacturers' rated capacity			
	1 1/2 tons and under	Over 1 1/2 but less than 2 1/2 tons	2 1/2 tons and over	Total
	Percent			
Truck tractors	3	13	84	100
Total straight trucks	41	43	16	100
Van	47	37	16	100
Tank	17	58	25	100
Other	47	43	10	100
	—	—	—	—
Total all trucks	38	40	22	100

<sup>1</sup>Based on information from 3,469 farmer cooperatives reporting owned or leased trucks.

Table 6. - *Percentage distribution of motortrucks operated by farmer cooperatives, by type of cooperative and manufacturers' rated capacity, January 1, 1961<sup>1</sup>*

Type of cooperative	Percentage distribution of trucks by type of cooperative and manufacturers' rated capacity			
	1 1/2 tons and under	Over 1 1/2 but less than 2 1/2 tons	2 1/2 tons and over	Total
Percent				
Marketing				
Cotton	37	50	13	100
Dairy	46	29	25	100
Fruit and vegetable	41	41	18	100
Grain	39	47	14	100
Livestock and wool	37	37	26	100
Poultry	21	52	27	100
Miscellaneous	27	40	33	100
Marketing (total)	43	35	22	100
Purchasing	30	48	22	100
Service	33	24	43	100
All types	38	40	22	100

<sup>1</sup>Based on information from 3,469 farmer cooperatives reporting owned or leased trucks.

percent were in the over 1 1/2 but less than 2 1/2-ton category, and only 16 percent were 2 1/2 tons or over. As would be expected, 84 percent of the truck tractors were 2 1/2 tons or over, with only 3 percent 1 1/2 tons or less. As shown in appendix table 2, 47 percent of the straight van trucks were 1 1/2 tons and under.

Trucks operated by the various types of cooperatives differed considerably in size. For example, four of the seven

principal types of marketing cooperatives had most of their trucks in the over 1 1/2 but less than 2 1/2-ton category (table 6). As a group, however, 43 percent of the trucks of marketing cooperatives were 1 1/2-ton capacity or less. In contrast, 48 percent of the trucks operated by purchasing cooperatives were in the over 1 1/2 but less than 2 1/2 ton range, while the bulk of the trucks operated by service-type cooperatives, or 43 percent, were in the 2 1/2 tons and over category.

## Owned Versus Leased Equipment

We obtained some information on the extent of motortruck leasing by farmer cooperatives. While the associations owned the majority of motortrucks, trailers, and semitrailers they operated, there were some significant differences in the

percentage owned or leased by type of cooperative as well as by type of equipment operated.

As shown in table 7, farmer cooperatives leased only 7 percent of both the

Table 7. - Percentage distribution of straight trucks, tractors, trailers, and semitrailers, owned or leased, by type of cooperative, January 1, 1961<sup>1</sup>

Type of cooperative	Percentage distribution by kind of truck											
	Straight trucks			Tractors			Trailers			Semitrailers		
	Owned	Leased	Total	Owned	Leased	Total	Owned	Leased	Total	Owned	Leased	Total
Percent												
Marketing												
Cotton	95	5	100	92	8	100	97	3	100	81	19	100
Dairy	92	8	100	90	10	100	92	8	100	91	9	100
Fruit and vegetable	97	3	100	95	5	100	95	5	100	94	6	100
Grain	99	1	100	88	12	100	94	6	100	82	18	100
Livestock and wool	94	6	100	79	21	100	67	33	100	70	30	100
Poultry	88	12	100	85	15	100	98	2	100	83	17	100
Miscellaneous	93	7	100	88	12	100	100	0	100	96	4	100
	—	—	—	—	—	—	—	—	—	—	—	—
Marketing (total)	94	6	100	90	10	100	95	5	100	89	11	100
Purchasing	92	8	100	76	24	100	88	12	100	84	16	100
Service	98	2	100	68	32	100	0	0	0	68	32	100
	—	—	—	—	—	—	—	—	—	—	—	—
All types	93	7	100	85	15	100	93	7	100	87	13	100

<sup>1</sup>Based on data reported by 3,469 farmer cooperatives.

straight trucks and full trailers they operated, as compared to 15 and 13 percent, respectively, for tractors and semitrailers. Marketing cooperatives leased 10 percent of the tractors they operated, as compared with 24 percent

for purchasing cooperatives and 32 percent for service cooperatives. A more complete breakdown of leased versus owned equipment is given for straight trucks in appendix table 4.

## Size of Cooperative Truck Fleets

Of the 6,171 farmer cooperatives returning usable questionnaires, 44 percent reported they did not own or lease any straight trucks or trucktractors. Twenty-three percent of the cooperatives reported 1 or 2 trucks, 17 percent reported 3 to 5 trucks, and 14 percent reported truck fleets ranging from 6 to 25 trucks. Only 2 percent of the cooperatives reported fleets of more than 25 trucks (table 8).

The percentage of cooperatives reporting at least one truck varied considerably

by principal type of cooperative. While only about one-fourth of the service-type cooperatives reported trucks, almost 50 percent of the marketing cooperatives and more than three-fourths of the purchasing cooperatives owned or leased some motortrucks.

Thirty-five percent of the marketing cooperatives operated 1 to 5 trucks and 12 percent had more. Within the marketing group, poultry cooperatives had the highest percentage of associations

Table 8. - *Number of cooperatives reporting motortrucks owned or leased, and percent, by type of cooperative and size of fleet, January 1, 1961*

Type of cooperative	Number reporting	Percent of cooperatives by number of trucks					
		None	1 or 2	3 to 5	6 to 25	Over 25	Total
	<i>Number</i>						<i>Percent</i>
Marketing							
Cotton	364	52	31	13	4	0	100
Dairy	1,112	48	20	12	14	6	100
Fruit and vegetable	482	65	15	9	10	1	100
Grain	1,451	44	27	20	9	(1)	100
Livestock and wool	362	83	9	5	3	0	100
Poultry	76	42	16	9	29	4	100
Miscellaneous	203	78	12	7	3	0	100
Marketing (total)	4,050	53	21	14	10	2	100
Purchasing	1,980	22	29	25	23	1	100
Service	141	72	24	2	2	0	100
All types	6,171	44	23	17	14	2	100

<sup>1</sup>Less than 0.5 percent.

Table 9. - *Number and percent of cooperatives reporting trucks owned or leased, and type of cooperative and size of trailer and semitrailer fleet, January 1, 1961*

Type of cooperative	Number reporting trucks	Percent of cooperatives by number of trailers and semitrailers					
		None	1 or 2	3 to 5	6 to 25	Over 25	Total
	<i>Number</i>						<i>Percent</i>
Marketing							
Cotton	172	41	39	16	3	1	100
Dairy	581	75	12	6	5	2	100
Fruit and vegetable	168	67	10	13	8	2	100
Grain	811	86	11	2	1	(1)	100
Livestock and wool	61	74	21	3	2	0	100
Poultry	44	79	7	5	7	2	100
Miscellaneous	44	75	11	5	7	2	100
Marketing (total)	1,881	76	14	6	3	1	100
Purchasing	1,549	81	14	3	2	(1)	100
Service	39	77	18	3	2	0	100
All types	3,469	78	14	4	3	1	100

<sup>1</sup>Less than 0.5 percent.

operating trucks. Poultry cooperatives were also the only type with a larger percentage of their truck operations in a size category other than the 1 or 2 grouping; they had 29 percent in the 6 to 25 unit range. More than half the grain and dairy cooperatives operated trucks, while those cooperatives classified as miscellaneous-type associations had the lowest percentage of truck ownership or lease.

Information concerning cooperatively owned or leased trailers and semitrailers by size of fleet is in table 9. Only 22 percent of the 3,469 cooperatives operating trucks reported trailers or semitrailers. Of these, over 60 percent operated only one or two units. Of the marketing cooperatives, cotton cooperatives with 59 percent, and fruit and vegetable cooperatives with 33 percent, had the largest percentage of trailers and semitrailers.

## Trucks by Size of Cooperative

The percentage of total trucks owned or leased by annual dollar volume of business for the various types of cooperatives is shown in table 10. Marketing cooperatives with annual business volumes from \$1 million up to \$5 million operated 34 percent of the trucks in marketing

activities, while cooperatives in the \$10 million and over category accounted for 36 percent of the trucks.

Trucks operated by purchasing cooperatives were more evenly distributed by size of business than the marketing

associations, except for the \$5 million up to \$10 million bracket, which accounted for only 1 percent. There were comparatively fewer cooperatives in this category than in any of the others, however, which probably accounted for the unusually low percentage. All service cooperative trucks were operated by associations with a business volume of under \$500,000.

Types of marketing cooperatives varied considerably in percentage of trucks operated by size of business. Cotton cooperatives were high in the under \$500,000 bracket, with 67 percent of their trucks in that group. Similarly, grain cooperatives were high in the \$500,000 up to \$1 million bracket with 22 percent, fruit and vegetable associations

in the \$1 million up to \$5 million category with 61 percent, poultry in the \$5 million up to \$10 million category with 17 percent, and dairy cooperatives in the \$10 million and over category, with 49 percent of their trucks.

This study showed a relationship between the size of the cooperative according to dollar volume of business and the number of trucks operated, (table 11). With certain exceptions, the average number of trucks per cooperative increased as the dollar volume of business increased. The average number of trucks per marketing cooperative rose from 3 for cooperatives with a dollar volume of under \$500,000 to 77 for cooperatives with dollar volumes of \$10 million and over, while purchasing cooperatives varied from 3

Table 10. - *Percentage distribution of motortrucks, by type of cooperative and annual dollar volume of business, January 1, 1961*

Type of cooperative	Number of trucks <sup>1</sup>	Percentage distribution of motortrucks, by cooperative dollar volume					
		Under \$500,000	\$500,000 up to \$1 million	\$1 million up to \$5 million	\$5 million up to \$10 million	\$10 million and over	Total
Percent							
Marketing							
Cotton	433	67	15	17	(2)	(2)	100
Dairy	8,957	6	6	26	13	49	100
Fruit and vegetable	1,096	12	12	61	5	10	100
Grain	2,915	12	22	51	3	12	100
Livestock and wool	209	46	6	30	5	13	100
Poultry	456	4	10	26	17	43	100
Miscellaneous	118	25	19	47	6	3	100
Marketing (total)	14,184	10	10	34	10	36	100
Purchasing	9,829	25	18	31	1	25	100
Service	67	100	0	0	0	0	100
All types	24,080	17	13	32	6	32	100

<sup>1</sup>Number of trucks operated by farmer cooperatives reporting both truck operations and dollar volume of business.  
<sup>2</sup>Less than 0.5 percent.

Table 11. - Average number of motortrucks per cooperatives reporting trucks, by type of cooperative, by dollar volume of cooperative business, January 1, 1961<sup>1</sup>

Type of cooperative	Average for all cooperatives <sup>1</sup>	Average number of trucks per cooperative, by dollar volume of business				
		Under \$500,000	\$500,000 up to \$1 million	\$1 million up to \$5 million	\$5 million up to \$10 million	\$10 million and over
<i>Number</i>						
Marketing						
Cotton	3	3	3	4	1	2
Dairy	17	3	6	15	30	116
Fruit and vegetable	7	3	5	10	8	12
Grain	4	2	3	5	9	38
Livestock and wool	4	3	3	5	11	6
Poultry	11	2	6	7	15	66
Miscellaneous	3	2	2	4	2	3
	—	—	—	—	—	—
Marketing (total)	8	3	4	8	21	77
Purchasing	7	3	6	12	16	96
Service	2	2	0	0	0	0
	—	—	—	—	—	—
All types	8	3	5	10	21	82

<sup>1</sup>Based on data of 3,148 farmer cooperatives reporting both truck operations, owned or leased, and dollar volume of business.

to 96 trucks, respectively, for the same categories. Overall, marketing cooperatives reporting trucks averaged 8 trucks, purchasing 7 trucks, and service cooperatives 2 trucks per association.

Of the marketing associations, dairy cooperatives had the highest overall average number of trucks, with 17. This is partly due to the local retail delivery operations of many dairy cooperatives. Poultry cooperatives were next, with 11 trucks, and fruit and vegetable cooperatives were third with 7 trucks.

In reviewing the data shown in table 11, certain factors should be borne in mind. Some cooperatives in the \$10 million and above class show a relatively high average number of trucks per association. Many of the organizations in this dollar volume category are overhead regional cooperatives, who in some cases reported for their local member associations but were treated as one cooperative. In centralized cooperatives, the trucks are generally owned and their operation supervised by the overhead association. On the other hand, local member associations in most federated type cooperatives own and operate their own motortrucks independently.

## Over-the-Road Versus Local Hauling<sup>6</sup>

Total truck mileage reported by the 3,017 cooperatives replying to this question in full was 455 million miles for 1960. Of this total, 130 million miles, or 28 percent, was classified as over-the-road mileage. Truck mileage of all farmer cooperatives for 1960, based on the reported information, was estimated at 660 million miles for both local and over-the-road trucking.<sup>7</sup>

Total United States truck mileage over both rural and urban roads has been

estimated at 126.4 billion miles for 1960. Thus, truck mileage of farmer cooperatives accounts for about one-half of 1 percent of the U. S. total.

Of the 3,217 cooperatives reporting type of truck operations in 1960, 1,055 or about one-third had "over-the-road" operations. Ten percent of the cooperatives reported up to 25 percent of their truck mileage as over-the-road, 13 percent reported from 25 percent to 74 percent, and 10 percent reported that their over-the-road hauling accounted for 75 percent or more of their truck mileage (table 12). Nineteen percent of the marketing cooperatives reported 50 percent or more of their truck mileage as over-the-road, against 14 percent and 27 percent,

<sup>6</sup>Over-the-road trucking was defined in the questionnaire as all hauls other than local pickup and delivery and movements from fields to local concentration points.

<sup>7</sup>The estimated 660 million total miles was based on a projection of average miles per truck by type of cooperative reporting.

Table 12. - *Percentage distribution of reporting cooperatives by approximate percent of total truck miles that were "over-the-road," 1960<sup>1</sup>*

Type of cooperative	Number of cooperatives	Percentage of cooperatives reporting by percent of "over-the-road" miles					Total
		Reported none	Less than 25 percent	25 to 49 percent	50 to 74 percent	75 percent and over	
	<i>Number</i>						<i>Percent</i>
Marketing							
Cotton	151	53	1	3	4	39	100
Dairy	524	74	9	4	5	8	100
Fruit and vegetable	144	74	6	2	3	15	100
Grain	753	66	13	6	8	7	100
Livestock and wool	50	56	8	6	6	24	100
Poultry	42	60	5	9	17	9	100
Miscellaneous	38	50	5	8	16	21	100
Marketing (total)	1,702	67	9	5	7	12	100
Purchasing	1,482	67	12	7	6	8	100
Service	33	70	0	3	6	21	100
All types	3,217	67	10	6	7	10	100

<sup>1</sup>Based on data reported by 3,217 farmer cooperatives.

Table 13. - Percent of total truck mileage of cooperatives reporting local and over-the-road, by type of cooperative and size of fleet, January 1, 1961<sup>1</sup>

Type of cooperative	Total mileage	Percentage distribution by number of trucks and type of operation													
		1 or 2		3 to 5		6 to 25		26 to 100		Over 100		Total			
		Local	Over the road	Local	Over the road	Local	Over the road	Local	Over the road	Local	Over the road	Local	Over the road		
		Percent													
1,000 miles															
Marketing															
Cotton	5,358	22	11	19	12	19	17	0	0	0	0	60	40		
Dairy	179,586	3	1	6	1	18	8	20	8	27	8	74	26		
Fruit and vegetable	13,537	4	2	8	9	41	8	22	6	0	0	75	25		
Grain	48,844	10	3	25	10	30	9	1	(2)	5	7	71	29		
Livestock and wool	4,898	10	3	15	7	34	31	0	0	0	0	59	41		
Poultry	11,442	2	(2)	3	0	39	14	3	12	11	16	58	42		
Miscellaneous	2,542	8	2	8	28	4	50	0	0	0	0	20	80		
		—	—	—	—	—	—	—	—	—	—	—	—		
Marketing (total)	266,207	5	2	10	3	23	9	15	7	19	7	72	28		
Purchasing	186,639	10	2	14	3	32	9	3	7	12	8	71	29		
Service	2,189	25	14	10	5	26	20	0	0	0	0	61	39		
		—	—	—	—	—	—	—	—	—	—	—	—		
All types	455,035	7	2	12	3	27	9	10	7	16	7	72	28		

<sup>1</sup>Based on data reported by 3,217 cooperatives.

<sup>2</sup>Less than 0.5 percent.

respectively, for purchasing and service cooperatives.

Thus, the great majority of cooperative trucking is local in nature. Most of these operations consist of local pickups and deliveries and primary movements from field to local concentration points.

Local and over-the-road truck mileages of the various cooperative activities, by size of truck fleet, are shown by percentages in table 13.

Seventy-two percent of the total mileage reported was local, versus 28 percent over-the-road. This was the same for

marketing cooperatives as a group, while purchasing cooperatives reported 71 percent local hauling and service cooperatives 61 percent.

Percentage distribution of local and over-the-road mileage by size of truck fleet and geographic region is given in appendix table 5. The regional variation or range for local mileage ran from 59 percent for the Southwestern region to a high of 85 percent for both New England and the Middle Atlantic regions, a spread of 26 percentage points. The fleet size of 6 to 25 trucks registered the highest total percentage for both local and over-the-road mileage with 27 and 9 percent, respectively.

## Appendix

Appendix table 1. - *Number of cooperatives, number and percentage reporting motortrucks, number of trucks, average trucks per cooperative, by State and geographic region, January 1, 1961*

State and geographic region	Number of cooperatives <sup>1</sup>	Cooperatives reporting		Cooperatives reporting trucks		Number of trucks <sup>2</sup>	Average trucks per cooperative <sup>3</sup>
		Number	Percent	Number	Percent		
Maine	20	12	60	6	50	46	7.7
New Hampshire	8	7	88	4	57	62	15.5
Vermont	29	17	59	6	35	36	6.0
Massachusetts	33	24	73	13	54	450	34.6
Rhode Island	2	2	100	0	0	0	0
Connecticut	23	14	61	8	57	86	10.8
<b>New England</b>	<b>115</b>	<b>76</b>	<b>66</b>	<b>37</b>	<b>49</b>	<b>680</b>	<b>18.4</b>
New York	174	126	72	36	29	880	24.4
New Jersey	49	32	65	10	31	74	7.4
Pennsylvania	146	123	84	65	53	1,105	17.0
Delaware	5	4	80	1	25	3	3.0
West Virginia	29	23	79	6	26	20	3.3
Maryland	29	22	76	9	41	95	10.6
<b>Middle Atlantic</b>	<b>432</b>	<b>330</b>	<b>76</b>	<b>127</b>	<b>38</b>	<b>2,177</b>	<b>17.1</b>
Illinois	485	321	66	180	56	1,107	6.2
Indiana	143	100	70	87	87	1,145	13.2
Ohio	285	196	69	155	79	1,743	11.2
Michigan	222	150	68	109	73	1,007	9.2
<b>Central</b>	<b>1,135</b>	<b>767</b>	<b>68</b>	<b>531</b>	<b>69</b>	<b>5,002</b>	<b>9.4</b>
Virginia	105	69	66	20	29	250	12.5
Kentucky	58	39	67	10	26	31	3.1
Tennessee	117	90	77	61	68	173	2.8
North Carolina	53	34	64	16	47	929	58.1
Mississippi	140	88	63	51	58	325	6.4
Alabama	49	30	61	17	57	113	6.6
Georgia	77	48	62	25	52	250	10.0
South Carolina	22	10	45	4	40	17	4.2
Florida	111	69	62	35	51	472	13.5
<b>Southern</b>	<b>732</b>	<b>477</b>	<b>65</b>	<b>239</b>	<b>50</b>	<b>2,560</b>	<b>10.7</b>
North Dakota	519	350	67	117	33	343	2.9
South Dakota	311	210	68	111	53	441	4.0
Minnesota	1,103	760	69	454	60	2,474	5.4
Wisconsin	699	528	76	295	56	1,785	6.0
<b>Northwestern</b>	<b>2,632</b>	<b>1,848</b>	<b>70</b>	<b>977</b>	<b>53</b>	<b>5,043</b>	<b>5.2</b>

See end of table for footnote references.  
Table continued on following page.

Appendix table 1. - *Number of cooperatives, number and percentage reporting motortrucks, number of trucks, average trucks per cooperative, by State and geographic region, January 1, 1961 - continued*

State and geographic region	Number of cooperatives <sup>1</sup>	Cooperatives reporting		Cooperatives reporting trucks		Number of trucks <sup>2</sup>	Average trucks per cooperative <sup>3</sup>
		Number	Percent	Number	Percent		
Nebraska	393	254	65	148	58	548	3.7
Iowa	618	472	76	349	74	1,687	4.8
Kansas	353	262	74	178	68	798	4.5
Missouri	243	152	63	122	80	1,174	9.6
Midwestern	1,607	1,140	71	797	70	4,207	5.3
Oklahoma	182	126	69	57	45	331	5.8
Arkansas	113	76	67	38	50	152	4.0
Texas	514	366	71	191	52	741	3.9
Louisiana	59	41	69	10	24	69	6.9
Southwestern	868	609	70	296	49	1,293	4.4
Montana	178	120	67	68	57	212	3.1
Idaho	97	65	67	32	49	217	6.8
Wyoming	26	16	62	9	56	36	4.0
Utah	61	35	57	11	31	173	15.7
Colorado	115	80	70	54	68	203	3.8
New Mexico	32	21	66	11	52	52	4.7
Rocky Mountain	509	337	66	185	55	893	4.8
Washington	187	154	82	95	62	1,266	13.3
Oregon	119	88	74	53	60	714	13.5
California	398	309	78	111	36	1,488	13.4
Nevada	4	1	25	1	100	13	13.0
Arizona	14	11	79	7	64	130	18.6
Pacific	722	563	78	267	47	3,611	13.5
Alaska	2	1	50	1	100	18	18.0
Hawaii	18	15	83	7	47	24	3.4
Puerto Rico	12	8	67	5	63	20	4.0
Noncontiguous	32	24	75	13	54	62	4.8
United States	8,784	6,171	70	3,469	56	25,528	7.4

<sup>1</sup>Represents actual number of cooperatives to whom questionnaires were mailed. Several of the regional cooperatives included in the survey, however, regularly report statistical information for their local member associations. Thus, there is a disparity between the total number of cooperatives shown above and that listed by the History and Statistics Branch, Farmer Cooperative Service.

<sup>2</sup>Includes straight trucks and truck tractors.

<sup>3</sup>Average trucks per cooperative reporting motortrucks.

Appendix table 2. - *Percentage distribution of cooperative motor trucks, by manufacturers' rated capacity, January 1, 1961<sup>1</sup>*

Type of cooperative	Percentage distribution by number of trucks for each type cooperative												
	Truck tractors					Straight trucks							
						Van					Tank		
	1½ tons and under	Over 1½ tons but less than 2½ tons	2½ tons and over	Total	Percent	1½ tons and under	Over 1½ tons but less than 2½ tons	2½ tons and over	Total	Percent	1½ tons and under	Over 1½ tons but less than 2½ tons	2½ tons and over
Marketing													
Cotton	16	62	22	100	45	48	7	100	44	40	16	55	39
Dairy	2	8	90	100	52	32	16	100	10	33	57	100	69
Fruit and vegetable	12	7	81	100	48	34	18	100	85	9	6	100	43
Grain	1	12	87	100	41	50	9	100	32	59	9	100	45
Livestock and wool	13	8	79	100	42	43	15	100	0	33	67	100	46
Poultry	0	17	83	100	21	67	12	100	3	46	51	100	37
Miscellaneous	0	0	100	100	30	45	25	100	12	88	0	100	36
Marketing (total)	5	15	80	100	49	36	15	100	19	42	39	100	54
Purchasing	1	8	91	100	41	40	19	100	16	67	17	100	39
Service	0	36	64	100	36	28	36	100	19	19	62	100	93
Total	3	13	84	100	47	37	16	100	17	58	25	100	47

<sup>1</sup>Based on data reported by 6,171 farmer cooperatives. Includes both owned and leased motortrucks.

Appendix table 3. - *Percentage distribution of motortrucks, by type of cooperative, January 1, 1961*<sup>1</sup>

Type of cooperative	Percentage distribution by type of cooperative for each size truck														
	Truck tractors					Straight trucks					All trucks				
	1½ tons and under	Over 1½ tons but less than 2½ tons	2½ tons and over	Total	1½ tons and under	Over 1½ tons but less than 2½ tons	2½ tons and over	Total	1½ tons and under	Over 1½ tons but less than 2½ tons	2½ tons and over	Total	1½ tons and under	Over 1½ tons but less than 2½ tons	2½ tons and over
Percent															
Marketing	37	39	2	8	1	1	(2)	1	2	(2)	2	1	2	2	2
Cotton	24	23	41	38	64	49	58	57	11	12	47	20	21	45	26
Dairy	19	3	6	6	2	2	2	2	4	(2)	(2)	1	9	5	5
Fruit and vegetable	1	7	7	7	8	13	6	10	21	12	4	11	19	13	15
Grain	6	1	1	1	1	2	1	1	0	(2)	1	(2)	1	1	1
Livestock and wool	0	5	4	4	1	4	2	2	(2)	1	2	1	2	1	3
Poultry	0	0	1	1	(2)	(2)	(2)	(2)	(2)	(2)	0	(2)	1	1	(2)
Miscellaneous	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Marketing (total)	87	78	62	65	77	71	69	73	38	25	54	34	55	68	52
Purchasing	13	20	37	34	23	29	30	27	62	75	45	66	45	32	48
Service	0	2	1	1	(2)	(2)	1	(2)	(2)	(2)	0	(2)	(2)	(2)	(2)
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

<sup>1</sup>Based on data reported by 6,171 farmer cooperatives. Includes both owned and leased motortrucks.

<sup>2</sup>Less than 0.5 percent.

Appendix table 4. - *Percentage distribution of straight trucks, owned or leased, by type of truck and type of cooperative, January 1, 1961<sup>1</sup>*

Type of cooperative	Percentage distribution by type of truck											
	Van			Tank			Other			Total		
	Owned	Leased	Total	Owned	Leased	Total	Owned	Leased	Total	Owned	Leased	Total
<i>Percent</i>												
Marketing												
Cotton	93	7	100	100	0	100	95	5	100	95	5	100
Dairy	91	9	100	85	15	100	97	3	100	92	8	100
Fruit and vegetable	91	9	100	100	0	100	98	2	100	97	3	100
Grain	98	2	100	98	2	100	99	1	100	99	1	100
Livestock and wool	92	8	100	100	0	100	97	3	100	94	6	100
Poultry	95	5	100	98	2	100	76	24	100	88	12	100
Miscellaneous	100	0	100	100	0	100	91	9	100	93	7	100
	—	—	—	—	—	—	—	—	—	—	—	—
Marketing (total)	92	8	100	90	10	100	97	3	100	94	6	100
Purchasing	94	6	100	87	13	100	95	5	100	92	8	100
Service	100	0	100	94	6	100	100	0	100	98	2	100
	—	—	—	—	—	—	—	—	—	—	—	—
All types	93	7	100	88	12	100	96	4	100	93	7	100

<sup>1</sup>Based on data reported by 3,489 farmer cooperatives.

Appendix table 5. - Percentage distribution of total truck mileage of cooperatives reporting local and over-the-road mileage, by geographic region and size of fleet, 1960<sup>1</sup>

Geographic region	Total mileage	Percentage distribution of total truck mileage by number of trucks											
		1 or 2		3 to 5		6 to 25		26 to 100		Over 100		Total	
		Local	Over the road	Local	Over the road	Local	Over the road	Local	Over the road	Local	Over the road		
1,000 miles													
New England	16,731	47	0	1	(2)	13	6	4	7	20	2	85	15
Middle Atlantic	38,345	1	1	4	1	21	1	8	3	51	9	85	15
Central	77,696	3	1	8	2	37	9	9	10	13	8	70	30
Southern	48,125	4	2	9	3	24	13	14	10	16	5	67	33
Northwestern	95,853	10	2	20	3	28	11	6	2	13	5	77	23
Midwestern	82,071	7	2	17	4	30	10	7	3	5	15	66	34
Southwestern	32,809	6	3	7	10	16	5	16	22	14	1	59	41
Rocky Mountain	13,466	9	3	11	4	18	14	26	15	0	0	64	36
Pacific	49,349	2	1	4	3	24	8	18	5	24	11	72	28
Noncontiguous	590	0	2	63	0	15	20	0	0	0	0	78	22
		—	—	—	—	—	—	—	—	—	—	—	—
United States	455,035	7	2	12	3	27	9	10	7	16	7	72	28

<sup>1</sup>Based on data reported by 3,217 cooperatives.

<sup>2</sup>Less than 0.5 percent.

## Other Publications Available

Piggyback Transportation for Pacific Northwest Cooperatives,  
General Report 86. William C. Bowser, Jr.

Motortruck Leasing by Farmer Cooperatives, Information 14.  
William C. Bowser, Jr.

Safety-Checking Livestock Handling Facilities, Information 28.  
Joseph E. Rickenbacker.

Causes of Losses in Trucking Livestock, Marketing Research  
Report 261. Joseph E. Rickenbacker.

Losses of Livestock in Transit in Midwestern and Western States,  
Marketing Research Report 247. Joseph E. Rickenbacker.

Loss and Damage in Handling and Transporting Hogs, Marketing  
Research Report 447. Joseph E. Rickenbacker.

Losses from Handling Sheep and Lambs, Marketing Research  
Report 544. Joseph E. Rickenbacker.

A copy of each of these publications may be obtained upon request  
while a supply is available from --

Information Division  
Farmer Cooperative Service  
U. S. Department of Agriculture  
Washington 25, D. C.



